REMARKS

At the outset, Applicant thanks the Examiner for the thorough review and consideration of the subject application. The Final Office Action dated April 18, 2003 and the Advisory Action dated December 17, 2003 have been received and their contents carefully reviewed.

In the Final Office Action dated April 18, 2003, the Examiner rejected claims 1 and 25 under 35 U.S.C § 103(a) as being unpatentable over Watney (U.S. Patent No. 5,930,398) taken with Shau (U.S. Patent No. 6,404,670) in view of Kobayashi et al. (U.S. Patent No. 4,859,871); rejected claims 2, 3, 26, and 27 under 35 U.S.C § 103(a) as being unpatentable over Watney taken with Shau in view of Kobayshi et al. as applied to claims 1 and 25 and further in view of Ng et al. (U.S. Patent No. 5,847,616); rejected claims 7, 14, and 29 under 35 U.S.C § 103(a) as being unpatentable over Furuhashi et al. (U.S. Patent No. 5,850,540) taken with Smeets et al. (U.S. Patent No. 6,218,968) in view of Taguchi (U.S. Patent No. 5,815,080); rejected claims 8 and 30 under 35 U.S.C § 103(a) as being unpatentable over Furuhashi et al. taken with Smeets et al. in view of Taguchi as applied to claims 7 and 29 and further in view of Kondo (U.S. Patent No. 6,222,398); and objected to claims 4, 5, 9-13, 15, 28, and 31-33 as being dependent upon a rejected claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The rejections and objection of these claims is traversed and reconsideration of the claims is respectfully requested in view of the following remarks.

Applicant appreciates the indication of allowable subject matter in claims 4, 5, 9-13, 15, 28, and 31-33, which were objected to as being dependent upon rejected base claims, but

would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims.

In the Advisory Action dated December 17, 2003, the Examiner supported a determination that the Request for Reconsideration filed October 27, 2003 did not place the application in condition for allowance because "Applicant's arguments are not persuasive." Further, the Examiner attached a "Continuation Sheet" stating that "[a] review of Applicant's argument found said arguments to be not persuasive."

According to M.P.E.P. § 707.07(f), in order to provide a complete application file history and to enhance the clarity of the prosecution history record, an Examiner must provide clear explanations of all actions taken during prosecution of an application. Where the Applicant traverses any rejection, the Examiner should, if they repeat the rejection, take note of the Applicant's argument and answer the substance of it. Applicant respectfully submits a mere allegation that arguments presented in the Request for Reconsideration filed October 27, 2003 are "unpersuasive" does not answer the substance of those arguments. Moreover, arguments presented in the Request for Reconsideration filed October 27, 2003 were not presented in the Reply under 37 CFR § 1.111 filed January 14, 2003. Accordingly, Applicant respectfully submits that maintaining the finality of a rejection in the Advisory Action of October 27, 2003 because the newly presented arguments were "unpersuasive" frustrates the entire purpose of providing a complete application file history and of enhancing the clarity of the prosecution history record. Applicants respectfully request that the Examiner provide a clear explanation as to why the arguments presented in the Request for Reconsideration filed October 27, 2003, and expounded upon below, are "unpersuasive," in accordance with M.P.E.P. § 707.07(f).

The rejection of claims 1 and 25 under 35 U.S.C § 103(a) as being unpatentable over Watney taken with Shau in view of Kobayashi et al. is respectfully traversed and reconsideration is requested.

Claim 1 is allowable over Watney taken with Shau in view of Kobayashi et al. in that claim 1 recites a combination of elements including, for example "at least two bit lines, each bit line transmitting a bit signal having a voltage level; at least two voltage control means connected to the corresponding bit lines, wherein each voltage control means changes the voltage level of the bit line at a different ratio from the other voltage control means; and adder means for adding voltage levels outputted from the two voltage control means to generate an analog signal." Neither Watney, Shau, nor Kobayashi et al., singly or in combination, teach or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 2-6, which depend from claim 1, are also allowable over Watney taken with Shau in view of Kobayashi et al..

Claim 25 is allowable over Watney taken with Shau in view of Kobayashi et al. in that claim 25 recites a combination of elements including, for example "n voltage converters coupled to the corresponding output signals, wherein n is an integer and each voltage converter changes a voltage level of the corresponding output signal, and outputs of the n voltage converters are connected to produce a combined output signal in response to voltage levels of the n output signals from the controller, and wherein the combined output signal has a plurality of voltage levels representing nth power of the number of output signals." Neither Watney, Shau, nor Kobayashi et al., singly or in combination, teach or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims

26-28, which depend from claim 25, are also allowable over Watney taken with Shau in view of Kobayashi et al..

In the Final Office Action, the Examiner cites Watney as teaching "a bus compressing apparatus comprising at least two bit lines, each bit line transmitting a bit signal having a voltage level (col. 6, lines 25-39 and Fig. 2)." (Final Office Action at 7.)

Applicant respectfully submits, however, that at column 6, lines 25-39, Watney states that "... in FIG. 1 image data corresponding... to a video image are applied via an input bus 10 to a means 7 for compressing and encoding the data, whereupon the compressed/encoded data are supplied in a suitable format to data recorder/playback apparatus, or to a transmission channel or other utilization apparatus, as depicted via block 8." Moreover, Applicant respectfully submits Watney is completely silent as to any number of bit lines included within the bus compressing apparatus. Accordingly, Applicant respectfully submits that Watney fails to teach at least "a bus compressing apparatus comprising at least two bit lines, each bit line transmitting a bit signal having a voltage level," as asserted by the Examiner.

In the "Response to Applicant's Remarks" section of the outstanding Office Action, the Examiner asserted "[i]t... [was] understood that a data bus would included at least two bit lines and associated data control lines associated data control lines and that the signals communicated over the bus lines are represented by various voltage levels." (Final Office Action at 5.)

Applicant respectfully submits that, in stating "[i]t being understood that a data bus would included at least two bit lines and associated data control lines...", it appears as though the Examiner is relying on Official Notice.

In the "Response to Applicant's Remarks" section of the Final Office Action, the Examiner noted the Applicant's observation of the Examiner's use of "Official Notice" in the Office Action dated November 14, 2002 and stated "no mention of Official Notice" was made. (Final Office Action at 5.)

Applicant respectfully submits, however, that the principles of "Official Notice" are invoked whenever a conclusion made but is unsupported by documentary evidence. See MPEP § 2144.03 B (general conclusions concerning what is "basic knowledge" to one of ordinary skill in the art, without specific factual findings and some concrete evidence in the record to support the findings, will not support an obviousness rejection). Accordingly, even though the exact words "Official Notice" were not provided in the Office Action dated November 14, 2002, and even though the exact words "Official Notice" are not provided in the outstanding Office Action, the principles of "Official Notice" have nevertheless been invoked in forming general conclusions concerning what is "well known", "common knowledge", "common practice", "it being understood", etc., within the art. Therefore, and in stating "[i]t being understood that a data bus would included at least two bit lines and associated data control lines...", it appears as though the Examiner is relying on Official Notice.

The Examiner may take Official Notice of facts outside of the record that are capable of instant and unquestionable demonstration as being "well-known" in the art. *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970). As set forth in MPEP § 2144.03, if an applicant traverses an assertion made by an Examiner while taking Official Notice, the Examiner should cite a reference in support of their assertion. Accordingly, Applicant

seasonably traverses the use of Official Notice and respectfully requests the Examiner to provide a reference to support their assertions or an affidavit.

Applicant respectfully submits, however, even if it can be shown that "a data bus would [include] at least two bit lines and associated data control lines" there must still be some suggestion or motivation, either in the references themselves, or in the knowledge generally available to one of ordinary skill in the art to modify Watney. The mere fact that references can be combined or modified does not automatically render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See M.P.E.P. § 2143.01. To establish a *prima facie* case of obviousness, at least some objective reason to modify the reference must be present. M.P.E.P. § 2143.02.

Assuming *arguendo* that it is "understood that a data bus would [include] at least two bit lines and associated data control lines," Applicant respectfully submits that there is no suggestion or motivation to combine any such teaching with Watney. For example, Watney teaches at column 7, lines 57-58 the "output signal from the encoder circuit 20 may be a serial stream of digital samples of varying numbers of bits."

Further, in the "Response to Applicant's Remarks" section of the Final Office Action, the Examiner states "[i]t being understood that data transmission means include data (bit) lines and that the data is represented by voltage levels." (Final Office Action at 7.)

For similar reasons stated above, it appears that the Examiner is relying on Official Notice in asserting "[i]t being understood that data transmission means include data (bit) lines and that the data is represented by voltage levels." Accordingly, Applicant seasonably traverses the use of Official Notice and respectfully requests the Examiner to provide a reference to support their assertions or an affidavit.

Continuing the rejection of claims 1 and 25, the Examiner cites Shau as teaching "at least two voltage control means (voltage converters) connected to the corresponding bit lines, wherein each voltage control means changes the voltage level of the bit line at a different ratio from the other voltage control means (col. 28, line 43-47)." (Final Office Action at 7.)

Applicant respectfully submits, however, that, at column 28, lines 43-47, Shau teaches "Each memory cell further includes a bit-line to have a voltage control means for controlling the bit-line to have a bitline voltage higher, lower, and within a medium voltage range..." Accordingly, Applicant respectfully submits that Shau fails to at least teach "at least two voltage control means (voltage converters) connected to the corresponding bit lines, wherein each voltage control means changes the voltage level of the bit line at a different ratio from the other voltage control means," as asserted by the Examiner.

Further, Shau (U.S. Patent No. 6,404,670) is a Continuation-in-Part of Application No. 08/805,290, filed on February 25, 1997 (now U.S. Patent No. 5,825,704). Applicant respectfully submits, however, the subject matter relied upon by the Examiner in Shau (U.S. Patent No. 6,404,670) is not supported in the U.S. Patent No. 5,825,704. Accordingly, Applicant respectfully submits the subject matter currently relied upon in Shau (U.S. Patent No. 6,404,670) has an effective filing date January 26, 2001. It is respectfully submitted, however, that the present application is a Divisional of Application No. 09/170,526, filed on October 13, 1998. Accordingly, Applicant respectfully submits the subject matter relied upon in Shau (U.S. Patent No. 6,404,670) does not predate the effective filing date of the subject matter currently claimed.

After citing Shau, the Examiner states Watney "taken with" Shau "does not teach adder means for adding voltage levels outputted [from] the two voltage control means to

generate an analog signal" and relies on Kobayashi et al. to cure the deficiencies of Watney "taken with" Shau. (Final Office Action at 7.)

Assuming *arguendo* that Shau actually provided a teaching as alleged by the Examiner, Applicant respectfully submits that the Examiner has provided no suggestion or motivation why one of ordinary skill in the art would "take" Watney "with" Shau. Moreover, Applicant respectfully submits that Watney "taken with" Shau does not suggest the claimed invention as a whole. Absent such a suggestion or motivation to combine the references, Applicant respectfully submits that fragments of isolated disclosures within Watney and Shau have merely been pieced together using the claimed invention as a template via impermissible hindsight reasoning.

In reliance on Kobayashi et al., cited by the Examiner as teaching "adder means for adding voltage levels outputted [from] the two voltage control means to generate an analog signal (col. 13, lines 27-30)," the Examiner alleges it would have been obvious to "incorporate in the device as taught by Watney the features as taught by Shau in view of Kobayashi et al. in order to include in the system those features necessary to transmit the bit data being input to the at least two voltage converter and in turn generate an analog signal." (Final Office Action at 7.)

As stated above, establishment of a *prima facie* case of obviousness requires, at the least, some objective reason to modify the reference. See MPEP § 2143.02. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See MPEP § 2143.01. At column 7, lines 57-58, Watney teaches the "output signal from the encoder circuit 20 may be a stream of digital samples of varying numbers of bits." Kobayashi et al.

states, at column 13, lines 27-30, "...the D/A converter 85, the integrator 86 and the analog adder 82 constitute an essential part of a voltage level setting circuit 89." Applicant respectfully submits that there is no motivation or suggestion why one of ordinary skill in the art would combine Watney "taken with" Shau with the adder (analog adder 82) of Kobayashi et al. The signal outputted by Watney is digital while the signal outputted by Kobayashi et al. is analog. As such, Applicant respectfully submits that combining the teachings of Kobayashi et al. would change the principle operation of Watney. If the proposed modification or combination of the references would change the principle operation of the reference being modified (e.g., render the reference unsatisfactory for its intended purpose), then the teachings of the references are not sufficient to render the claims *prima facie* obvious. Applicant respectfully submits that Watney "taken with" Shau in view of Kobayashi et al. does not suggest the claimed invention as a whole. Absent such a suggestion or motivation to combine the references, Applicant respectfully submits that fragments of isolated disclosures within Watney "taken with" Shau in view of Kobayashi et al. have merely been pieced together using the claimed invention as a template via impermissible hindsight reasoning.

In the "Response to Applicant's Remarks" section of the Final Office Action, the Examiner responded to remarks made by the Applicant that it appeared hindsight reasoning was used in formulating the conclusions of obviousness set forth in the Office Action dated November 14, 2003. More specifically, the Examiner stated "...it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of

ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper."

In light of the aforementioned citation, it is respectfully submitted that Applicant has shown the judgments of obviousness in the outstanding and previous Office Actions constitute a reconstruction based upon hindsight reasoning that includes only knowledge gleaned from the Applicant's disclosure. Absent any teaching or suggestion found within the references themselves or within the knowledge generally available to one of ordinary skill in the art, Applicant respectfully submits that such a reconstruction is not proper.

The rejection of claims 2, 3, 26, and 27 under 35 U.S.C § 103(a) as being unpatentable over Watney taken with Shau in view of Kobayshi et al. and further in view of Ng et al. is respectfully traversed and reconsideration is requested.

Claims 2 and 3 include all of the limitations of claim 1, as discussed above, and Watney taken with Shau in view of Kobayshi et al. fails to teach or suggest at least the features of independent claim 1 as recited above. Similarly, Ng et al. fails to cure the deficiencies of Watney taken with Shau in view of Kobayshi et al. Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness regarding claims 2 and 3 in view of claim 1, as above.

Claims 26 and 27 include all of the limitations of claim 25, as discussed above, and Watney taken with Shau in view of Kobayshi et al. fails to teach or suggest at least the features of independent claim 25 as recited above. Similarly, Ng et al. fails to cure the deficiencies of Watney taken with Shau in view of Kobayshi et al. Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness regarding claims 26 and 27 in view of claim 25, as above.

The rejection of claims 7, 14, and 29 under 35 U.S.C § 103(a) as being unpatentable over Furuhashi et al. taken with Smeets et al. in view of Taguchi is respectfully traversed and reconsideration is requested.

Claim 7 is allowable over Furuhashi et al. taken with Smeets et al. in view of Taguchi in that claim 7 recites a combination of elements including, for example "receiving means for receiving an analog signal formed by compressing at least n-bit data, wherein n is an integer; quantizing means for quantizing the analog signal from the receiving means; and coding means connected to the quantizing means for coding the quantized analog signal to reconstruct the n-bit data." Neither Furuhashi et al., Smeets et al., nor Taguchi, singly or in combination, teach or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 8-15, which depend from claim 7, are also allowable over the cited references.

Claim 29 is allowable over Furuhashi et al. taken with Smeets et al. in view of Taguchi in that claim 29 recites a combination of elements including, for example "an input line transmitting an analog signal formed by compressing n-bit data, wherein n is an integer; a plurality of level detectors parallely connected to the input line to output a quantized signal; and a coding device connected to the plurality of level detectors to code the quantized analog signal to reconstruct the n-bit data." Neither Furuhashi et al., Smeets et al., nor Taguchi, singly or in combination, teach or suggest at least these features of the claimed invention. Accordingly, Applicant respectfully submits that claims 30-33, which depend from claim 29, are also allowable over the cited references.

In the Final Office Action, the Examiner cites Furuhashi et al. as teaching "receiving means for receiving an analog signal formed by compressing at least n-bit data, wherein n is

an integer (col. 2, lines 46-54 and col. 3, lines 9-18 and 41-56)." The Examiner then cites Smeets et al. as teaching "quantizing means for quantizing the analog signal from the receiving means; and coding means connected to the quantizing means for coding the quantized analog signal to reconstruct the n-bit data (col. 12, line 41-44)." After citing Smeets et al., the Examiner states Furuhashi et al. "taken with" Smeets et al. "does not teach a plurality of level detectors parallely connected to the input line to output a quantized signal" and relies on Taguchi to cure the deficiencies of Furuhashi et al. "taken with" Smeets et al. (Final Office Action at 9.)

Applicant respectfully submits that the cited references are non-analogous and are therefore not properly combinable. For example, Furuhashi et al. is directed to the generation of image data representing a picture which are capable of producing realistic images (column 1, lines 6-8). Smeets et al., on the other hand, is directed to a method and device for encoding/decoding information (column 1, lines 4-9). Accordingly, Applicant respectfully submits that one of ordinary skill in the art seeking to modify Furuhashi et al. would not turn to the teachings of Smeets et al. Applicant respectfully submits that such combination is suggested only by the claimed invention and to do so would necessitate considerable impermissible hindsight.

Moreover, assuming *arguendo* that Smeets et al. provided a teaching as alleged by the Examiner, Applicant respectfully submits that the Examiner has provided no suggestion or motivation why one of ordinary skill in the art would "take" Furuhashi et al. with Smeets et al. Moreover, Applicant respectfully submits that Furuhashi et al. "taken with" Smeets et al. does not suggest the claimed invention as a whole. Absent such a suggestion or motivation to combine the references, Applicant respectfully submits that fragments of isolated and non-

analogous disclosures within Furuhashi et al. and Smeets et al. have merely been pieced together using the claimed invention as a template.

In reliance on Taguchi, cited by the Examiner as teaching "a plurality of level detectors parallely connected to the input line to output a quantized signal (col. 4, lines 6-13)," the Examiner alleges it would have been obvious to "incorporate in the device as taught by Furuhashi et al. the features as taught by Smeets et al. in view of Taguchi "to put in place the means necessary to decompress compressed data and reconstruct the signal being processed for presentation to a display device." (Final Office Action at 9.)

As stated above, establishment of a *prima facie* case of obviousness requires, at the least, some objective reason to modify the reference. See MPEP § 2143.02. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See MPEP § 2143.01.

For example, at column 2, lines 31-35, Furuhashi et al. states "The CPU 11 supplies the compressed image data from the main memory 12 to the image expander which is coupled ...to a local frame memory 21 which the expander 14 uses to expand the compressed image data and store the expanded image data," at column 2, lines 46-48, Furuhashi et al. states "The expanded image data are read out from the local frame memory 21 to a D/A converter 22 for conversion to analog form," and at column 2, lines 52-55, Furuhashi et al. states "The multiplexer 23 selects one of the analog signals received ...for output to an image monitor 25 in order to produce a composite image."

Accordingly, Applicant respectfully submits that one of ordinary skill in the art would not be motivated to combine the teachings of Furuhashi et al., Smeets et al., and Taguchi to

"...put in place the means necessary to decompress compressed data and reconstruct the signal being processed for presentation to a display device" because Furuhashi et al., without modification, already decompresses/reconstructs compressed data "for presentation to a display device." Applicant respectfully submits that such combination is suggested only by the claimed invention and combining the aforementioned references as described above would necessitate considerable impermissible hindsight.

The rejection of claims 8 and 30 under 35 U.S.C § 103(a) as being unpatentable over Furuhashi et al. taken with Smeets et al. in view of Taguchi and further in view of Kondo is respectfully traversed and reconsideration is requested.

Claim 8 includes all of the limitations of claim 7, as discussed above, and Furuhashi et al. taken with Smeets et al. in view of Taguchi fails to teach or suggest at least the features of independent claim 7 as recited above. Similarly, Kondo fails to cure the deficiencies of Furuhashi et al. taken with Smeets et al. in view of Taguchi. Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness regarding claim 8 in view of claim 7, as above.

Claim 30 includes all of the limitations of claim 29, as discussed above, and Furuhashi et al. taken with Smeets et al. in view of Taguchi fails to teach or suggest at least the features of independent claim 29 as recited above. Similarly, Kondo fails to cure the deficiencies of Furuhashi et al. taken with Smeets et al. in view of Taguchi. Accordingly, Applicant respectfully submits that the Examiner has not established a *prima facie* case of obviousness regarding claim 30 in view of claim 29, as above.

Further, Kondo was filed on November 22, 1999. It is respectfully submitted, however, that the present application is a Divisional of Application No. 09/170,526, filed on

October 13, 1998. Accordingly, Applicant respectfully submits that Kondo is not available as prior art with respect to the present invention.

Applicants believe the application is in condition for allowance and early, favorable action is respectfully solicited. If the Examiner deems that a telephone conversation would further the prosecution of this application, the Examiner is invited to call the undersigned at (202) 496-7500.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911. A duplicate copy of this sheet is enclosed.

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Respectfully submitted,

By _____
Kurt M. Eaton
Registration No.: 51,640
MCKENNA LONG & ALDRIDGE LLP
1900 K Street, N.W.
Washington, DC 20006
(202) 496-7500
Attorney for Applicant